We Claim:

1. A composition that includes a solid state film forming alkylsilsesquioxane polymer and an inert binder.

2. The composition of claim 1 wherein said solid state film forming alkylsilsesquioxane polymer comprises 10-50% by weight of said composition.

3. The composition of claim 1 pressed into a tablet.

4. The composition of claim 1 pressed into a metal cup.

5. The composition of claim 1 wherein said solid state film forming alkylsilsesquioxane polymer is derived from RmSiXn where the non-polar R is a substituted silane or siloxane, an alkyl, a per-fluorinated alkyl, an alkyl ether, or a per-fluorinated alkyl ether group of 6-20 carbon atoms and most preferably 10-20 carbon atoms, where X is selected from the group consisting of halogens, hydroxy, alkoxy and acetoxy groups, and where m is 1-3, n is 1-3 and m+n equal 4.

6. The composition of claim 1 wherein said solid state film forming alkylsilsesquioxane polymer is derived from RmSiXn, where R is C_{18}, X is an ethoxy group, m is 1-3, n is 1-3 and m+n equal 4.

7. The composition of claim 1 wherein said solid state film forming alkylsilsesquioxane polymer is derived from alkylsilanes.

8. The composition of claim 1 wherein said solid state film forming alkylsilsesquioxane polymer is derived from RmSiXn where R is an alkyl and alkyl ether or a fluorinated alkyl and fluorinated alkyl ether chain containing C6-C20, where X is C1, Br, I, an alkoxy group or an acetoxy group, and where m is 1-3, n is 1-3 and m+n equal 4.

9. The composition of claim 1 wherein said solid state film forming alkylsilsesquioxane is derived from octadecyltrichlorosilane.

10. The composition of claim 1 wherein said binder includes one or more of titanium dioxide, silica and alumina.

11. The composition of claim 1 wherein said binder comprises metal oxide powder.

12. A composition containing a metal oxide powder and 10-50% by weight of solid state film forming alkylsilsesquioxane polymer powder.

13. The composition of claim 12 wherein said composition is compressed into a tablet.

14. The composition of claim 12 wherein said composition is compressed into a metal cup.

15. A composition containing a metal oxide powder and 10-50% by weight of a solid state film forming substance having amphiphilic molecules that are capable of self-assembly into a thin film on a substrate surface.

16. A method of coating substrate surfaces with a hydrophobic thin film of amphiphilic molecules comprising the steps of positioning a substrate and a solid state film forming substance of amphiphilic molecules within a vacuum chamber, evaporating the film forming substance to form a molecular beam of amphiphilic molecules, and allowing the amphiphilic molecules in the molecular beam to settle on the substrate surface and self-assemble thereon into a hydrophobic thin film.

17. The method of claim 16 including the step of rotating said substrate while said amphiphilic molecules in said molecular beam settle thereon within said vacuum chamber.

18. The method of claim 16 including the step of maintaining the temperature within said vacuum chamber at less than 100°C.

19. The method of claim 16 wherein said step of evaporating is carried out to provide a film formation on the substrate surface at a rate of 0.1-1.0 nanometers of film thickness per second.

20. The method of claim 19 wherein the film formation rate is 0.4-0.6 nanometers of film thickness per second.

21. The method of claim 16 wherein said method is carried out for a time to provide the substrate with a film having a thickness of 3-100 nanometers.

22. The method of claim 21 wherein the method is carried out for a time to provide the substrate with a film having a thickness of 6-15 nanometers.

23. The method of claim 16 including the step of maintaining the vacuum chamber at a vacuum of 1×10^{-4} to 1×10^{-6} torr.

24. The method of claim 16 wherein the step of positioning a solid state film forming substance of amphiphilic molecules within a vacuum chamber is carried out by positioning within the vacuum chamber a composition that includes a mixture of an inert powder and a powdered film forming substance of amphiphilic molecules.

25. The method of claim 24 wherein the step of positioning a composition in the chamber is carried out by positioning the composition in the form of a compressed tablet.

26. The method of claim 24 wherein the step of positioning a composition in the chamber is carried out by positioning the composition compressed within a metal cup.

27. The method of claim 24 wherein the step of positioning a composition is carried out positioning a composition that includes a mixture of a metal oxide powder and a powdered film forming substance of amphiphilic molecules.

28. The method of claim 27 wherein the step of positioning a composition is carried out by positioning a composition that contains 10-50% by weight of the powdered film forming substance of amphiphilic molecules.

29. A method of coating substrate surfaces with a hydrophobic thin film of amphiphilic molecules comprising the steps of positioning within a vacuum chamber a substrate and a solid composition that contains a solid state film forming substance of amphiphilic molecules, heating the composition to evaporate the film forming substance and form a molecular beam of amphiphilic molecules, allowing the amphiphilic molecules in the molecular beam to settle on the substrate surface and self-

assemble thereon into a hydrophobic thin film, and maintaining the temperature within the vacuum chamber below 100°C.

30. The method of claim 29 including the step of maintaining the vacuum chamber at a vacuum of 1×10^{-4} to 1×10^{-6} torr.

31. In a method of producing a solid state film forming alkylsilsesquioxane polymer of amphiphilic molecules by the hydrolysis and polymerization of monomers, the step of heating the alkylsilsesquioxane polymer in a vacuum to remove residual water therefrom and provide a dehydrated product.

32. The method of claim 31 wherein the step of heating in a vacuum is carried out at a temperature of 160-180°C.

33. The method of claim 32 wherein the step of heating in a vacuum is carried out at a vacuum at least as low as 1×10^{-2} torr.

34. The method of claim 33 wherein the step of heating in a vacuum is carried out for at least one hour.

35. The method of claim 31 including the step of crushing the dehydrated alkylsilsesquioxane polymer product to a fine powder.